THE FARMERS' CABINET,

DEVOTED TO AGRICULTURE, HORTICULTURE AND RURAL ECONOMY.

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Washington's Agricultural Notes.

[Notwithstanding the numerous public avocations and duties in which Washington was engaged for a large portion of his life, it is known, that to no one object did he give so much of his time and attention as to Agriculture. The frequency and minuteness of his directions to his managers on this head, and the unceasing correspondence which he kept up during his absence from Mount Vernon, are truly astonishing, when it is considered in what important and absorbing interests his mind was perpetually occupied. We have selected a few particulars from his papers, which, at the same time they illustrate his agricultural habits, may in part serve as practical hints, or salutary maxims to farmers in general.]

1. DIRECTIONS TO THE MANAGER OF HIS FARM.

A *system* closely pursued, although it may not in all its parts be the best that could be devised, is attended with innumerable advantages. The conductor of the business, in this case, can never be under any dilemma in his proceedings. The overseers, and even the laborers, know what is to be done, and what they are capable of doing, in ordinary seasons. The force to be employed may be in due proportion to the work which is to be performed, and a reasonable and tolerably accurate estimate may be made of the product. But when no plan is fixed, when directions flow from day to day, the business becomes a mere chaos, frequently shifting, and sometimes at a stand, for want of knowing what to do, or the manner of doing it. Thus is occasioned a waste of time, which is of more importance than is generally imagined.

Nothing can so effectually obviate the evil, as an established *system*, made known to all who are actors in it, that all may be enabled thereby to do their parts to advantage. This gives ease to the principal conductor of the business, and is more satisfactory to the persons who immediately overlook it, less harrassing to the laborers, as well as more beneficial to the employer.

Under this view of the subject, the principal service, which you can render me, is to explain to the overseers (who will be furnished with duplicates) the plan, in all its parts, which is hereafter detailed; to hear their ideas with respect to the order in which the different sorts of work therein pointed out shall succeed each other, for the purpose of carrying it on to the best advantage; to correct any erroneous projects they may be disposed to adopt; and then to see that they adhere strictly to whatever may be resolved on, and that they are always (except when otherwise permitted) on their farms, and with their people. The work, under such circumstances, will go on smoothly; and, that the stock may be well fed, littered, and taken care of according to the directions, it will be necessary to inspect the conduct of the overseers in this particular, and those also whose immediate business it is to attend upon them, with a watchful eye; otherwise, and generally in severe weather, when attention and care are most needed, they will be most neglected.

Economy in all things is as commendable

in the manager, as it is benefical and desirable to the employer; and, on a farm, it shows itself in nothing more evidently, or more essentially, than in not suffering the provender to be wasted, but, on the contrary, in taking care, that every atom of it be used to the best advantage; and likewise, in not permitting the ploughs, harness, and other implements of husbandry, and the gears belonging to them, to be unnecessarily exposed, trodden under foot, run over by carts, and abused in other respects. More good is derived from attending to the minutiæ of a farm, than strikes people at first view; and examining the farm-yards, fences, and looking into the fields to see that nothing is there but what is allowed to be there, is oftentimes the means of producing more good, or at least of avoiding more evil, than can be accomplished by riding from one working party, or one overseer to another. I have mentioned these things not only because they have occurred to me, but because, although apparently trifles, they prove far otherwise in the result.

To request that my people may be at their work as soon as it is light, work till it is dark, and be diligent while they are at it, can hardly be necessary, because the propriety of it must strike every manager, who attends to my interest, or regards his own character, and who, on reflecting, must be convinced that lost labor is never to be regained. The presumption is, that every laborer does as much in twenty-four hours, as his strength, without endangering his health or constitution, will allow. But there is much more in what is called head work, that is, in the manner of conducting business, than is generally imagined. For take two managers, and give to each the same number of laborers, and let the laborers be equal in all respects. Let both these managers rise equally early, go equally late to rest, be equally active, sober, and industrious, and yet, in the course of the year, one of them, without pushing the hands under him more than the other, shall have performed infinitely more work. To what is this owing? Why, simply to contrivance, resulting from that forethought and arrangement, which will guard against the misapplication of labor, and doing it unseasonably. In ploughing, for instance, though the field first intended for it, or in which the ploughs may actually have been at work, should, from its situation, be rendered unfit (by rain or other cause) to be worked, and other spots, even though the call for them may not be so urgent, can be ploughed, this business ought to go on, because the general operation is promoted by it. So with respect to other things, and particularly carting, where nothing is more common, than, when loads are to go to a place, and others to be brought from it, though not equally necessary at the same moment, to make two trips, when one would serve. These things are only mentioned to show, that the manager, who takes a comprehensive view of his business, will throw no labor away.

For these reasons it is, that I have endeavoured to give a general view of my plans, as to the business of the year, that the concerns of the several plantations may go on without application daily for orders, unless it be in particular cases, or where these directions are not clearly understood.

2. Particular directions for cultivating a farm near Mount Vernon.

[The directions alluded to in the preceding article, for the management of the farms in the neighborhood of Mount Vernon, were given in December, 1799, a few days before Washington's death, and intended for the year 1800. We shall select here the part relating to one farm only (called the *River Farm*,) which may serve as a sample of the whole.]

Crops for the River Farm, and Operations thereon, for the year 1800.

Field No. 1,—Is now partly in wheat; part is to be sown with oats; another part may be sown with peas, broad cast; part is in meadow, and will remain so; the most broken, washed, and indifferent part is to remain uncultivated, but to be harrowed and smoothed in the spring, and the worst portions (if practicable) to be covered with litter, straw, weeds, or any kind of vegetable rubbish, to prevent them from running into gullies.

No. 2,—One fourth is to be in corn, and to be sown with wheat; another fourth in buckwheat and peas, half of it in the one, and half in the other, sown in April, to be ploughed in as green dressing, and by actual experiment to ascertain which is best. The whole of this fourth is to be sown with wheat also; another fourth part is to be naked fallow for wheat; and the other and last quarter to be appropriated for pumpkins, cymlins, turneps, Yateman peas, (in hills) and such other things of this kind as may be required; and to be sown likewise with rye, after they are taken off, for seed.

No. 3,—Is now in wheat, to be harvested in the year 1800; the stubble of which, immediately after harvest, is to be ploughed in and sown thin with rye; and such parts thereof as are low, or produce a luxuriant growth of grain, are to have grass-seeds sprinkled over them. The whole for sheep to run on in the day (but housed at night) during the winter and spring months. If it should be found expedient, part thereof in the spring might be reserved for the purpose of seed.

No. 4,—Will be in corn, and is to be sown in the autumn of that year with wheat, to be harvested in 1801; and to be treated in all respects as has been directed for No 3, the preceding year. It is to be manured as much as the means will permit, with such aids as can be procured during the present winter and ensuing spring.

Nos. 5, 6, 7, and 8.—Are to remain as they are, but nothing suffered to run upon them; as ground will be allotted for the sole purpose of pasturage, and invariably used as such.

Clover Lots.

No. 1,—Counting from the Spring Branch, is to be planted in potatoes.

No. 2,—That part thereof which is now in turneps is to be sown with oats and clover; the other part, being now in clover, is to remain so until it comes into potatoes, by rotation.

No. 3,—Is also in clover at present, and is to remain so, as just mentioned, for No. 2.

No. 4,—is partly in clover and partly in timothy, and so to be, until its turn for potatoes.

The rotation for these lots invariably is to be, 1. Potatoes, highly manured; 2. Oats, and clover sown therewith; 3. Clover; 4. Clover. Then to begin again with potatoes, and proceed as before. The present clover lots must be plastered.

All green sward, rough ground, or that which is heavily covered with weeds, bottle brush grass, and such things as being turned in will ferment, putrefy, and meliorate the soil, should in autumn be ploughed in, and at such times in winter as can be done while the ground is dry, and in condition for it.

Pasture Grounds.

The large lot adjoining the negro houses and orchard, is to have oats sown on the potatoe and pumpkin ground; with which, and on the rye also in that lot, and on the melon part, orchard-grass seeds are to be sown; and thereafter to be kept as a standing calf pasture, and for ewes (which may require extra care) at yeaning, or after they have yeaned.

The other large lot, northeast of the barn lane, is to be appropriated *always* as a pasture for the milch cows; and probably working oxen during the summer season.

The woodland, and the old field, commonly called Johnston's, are designed for *common* pasture, and to be so applied always. To which, if it should be found inadequate to the stock of the farm, field No 8, and the woodland therein, may be added.

[To be concluded in our next.]

Manures.

No soil will always prove productive without manure. Though naturally fertile, if some equivalent for its produce is not returned to it; if it is always yielding and never receiving, it must, at length, become barren. Particular spots, like Egypt, and other alluvial or interval lands, which are annually overflowed, derive manure from the bountiful hand of nature, and cannot be rendered barren by bad husbandry or continual cropping. Some soils, likewise, are not easily exhausted, and are easily recruited, in consequence of being composed of materials which attract and retain the food of plants from air and water, as well as afford a proper medium to prepare and communicate the principle of fertility.

Every species of matter capable of promoting the growth of vegetables may be considered as manure. Vegetables are composed of certain substances called by chemists oxygen, [formerly called vital air] hydrogen, [inflammable air] carbon, [coaly matter] and nitrogen, or azote, one of the constituent parts of the atmosphere. The substances employed as manure should be composed of all or some of these elements.

Vegetable and animal snbstances, deposited in the soil, are consumed during the process of vegetation; being mostly absorbed by the roots of plants, combined with water. These substances compose what is called the food of plants. This food is mostly taken in by the roots, which are analagous to the mouths of animals, but some portion of the nourishment of vegetables is also derived from the atmosphere, imbibed by the leaves and bark. A controversy has existed relative to the degree of fermentation which manure should undergo before it is applied to the soil. Some agriculturists contend that long, fresh, or unfermented manure, is to be preferred. Others assert that stable and barn-yard manure never should be spread in the field till the fibrous texture of the vegetable matter is entirely broken down, and it becomes perfectly cold, and so soft as to be easily cut with a spade.

Sir Humphrey Davy observes, 'If the pure dung of cattle is to be used as manure, there seems no reason why it should be made to ferment, except in the soil; or if suffered to ferment it should be only in a very slight degree. The grass in the neighborhood of recently voided dung is always coarse and dark green; some persons have attributed this to a noxious quality in unfermented dung; but it seems to be rather the result of an excess of food furnished to the plants.

'During the violent fermentation which is necessary for reducing farm-yard manure to the state of what is called *short muck*, not only a large quantity of fluid, but likewise

of gaseous matter, is lost so much so that the dung is reduced one-half or two-thirds in weight; and the principal elastic matter disengaged, is carbonic acid, and some ammonia; and both of these, if retained by the moisture of the soil, are capable of becoming useful nourishment of plants.

'It is usual to carry straw that can be employed for no other purpose to the dung-hill to ferment and decompose; but it is worth an experiment, whether it may not be more economically applied when chopped small by a proper machine, and kept dry till it is ploughed in for the use of the crop. In this case, though it would decompose much more slowly and produce less effect at first, yet its influence would be more lasting.'

Robert Smith, Esq., president of the Maryland Agricultural Society, in an address to that society, observed, 'With respect to stable dung, I shall for the present content myself by barely suggesting, that my experience strongly inclines me to the opinion that, however long, it ought to be ploughed into the ground without any preivous stirring, and as soon as practicable after it has been taken from the farm-yard.'

We believe that the question relative to long and to short manure must depend on circumstances. In certain soils, and for certain crops, long manure which has undergone but a slight fermentation is to be preferred. But if used for wheat, and other kinds of grain, and in all crops which cannot conveniently be hoed or weeded, or, probably, when applied to soils containing acids or some substances which may prevent fermentation and retard the progress of putrescence and dissolution, it must be well rotted.

Rotting manure, however, in a barn-yard, or in any situation in which its volatile and liquid products escape into the atmosphere, or soak into soil not designed to support vegetation, is very slovenly and wasteful, and always to be avoided if possible. The effluvia or gas which is suffered to escape from fermenting manure is not only almost altogether lost to useful vegetation, but, what is still worse, fills the atmosphere with particles injurious to health, and often destructive to life. The evaporations from a manure yard rob the farmer of a part of his substance, starve his crops, and it is well if they do not, moreover, poison him and his family by there contaminating influence. Some farmers' barn-yards, hogpens, and other receptacles of manure, are very offensive, and if they do not generate typhus fever in its worst form, which we fear is frequently the case, they at last cause a degree of langor and debility, which embitters existence, and in a great measure disqualifies for any useful purposes of life. It is a fact that those exhalations so injurious to animal life are the essence of vegetable life, and the volatile substances which offend our senses and injure our health, if arrested in their transit by the hand of skilful industry, may be so modified in the great laboratory of nature as to greet us in the fragrance of a flower, regale us in the plum or nectarine, or furnish the stamina of life in substantial viands from the field and the stall of the cultivator.

If we are correct in the foregoing, an important axiom may be adduced, viz.: *No putrefaction process ought to be sufferd to proceed on a farmer's premises, without his adopting some mode to save, as far as possible, the gaseous products of such putrescence.* These gaseous products constitute important elements of vegetable food, and a farmer may as well suffer his cattle to stray from his stall, or his swine from his sty, without a possibility of reclaiming them, as permit the principles of fertility expelled by fermentation or putrefaction to escape into the atmosphere for the purpose of poisoning the air, instead of feeding the plants. It is very easy to arrest these particles. A quantity of earth thrown over the matter in which the fermentation is going on will check its violence and arrest its gaseous products, which will be imbibed by the soil, and afterwards yielded to plants in such proportion as the wants of vegetation may require.

'Fermentation, that destroyer of all organic conformation, is not to be feared by the farmer, if it be conducted and carried on in the presence of earth, which fixes and secures the gases as fast as they are liberated. Even the degree of the process is a matter of less consequence; because if the elementary principles are in keeping, and reserved for future usefulness, it is immaterial whether this has happened by a new absorption, or by still holding there original and unchanged form. In his composite hill [compost heap] the whole animal or vegetable structure may be dissolved, and leave behind no trace of existence, without the last waste of the principles of fertility; because the ingredients superadded to the dung have become surcharged with them, or, to speak philosophically, fully saturated. We may go further and state that complete decomposition is desirable in this case, which is so much to be avoided in the farm-yard; because putrescent matter can only become vegetable food by its resolution into primary parts, and if this be effected by any preparatory step, the young crop receives the full and instantaneous benefit. The compost manure is carried to the field ready to give out its richness on the very first call, and to supply the nascent radicle [young root] with a copious share of nourishment.

'The putrefactive process may be carried on in the presence of pure earth only, or of earth intermingled with fibrous roots, or lastly in the presence of peat, which is an assemblage of inert vegetable matter, and compost dung hills may be formed according to this threefold method.

'The simplest of all composts is a mixture of barn-yard dung and surface mould taken from a field under regular culture. The proportions between the ingredients are fixed by no determinate laws, and consequently great liberty is allowable to the operator. I have known some instances where two cart-loads of dung were used for one of earth; others where they were blended in equal quantities; and it is not unfrequent to compound two of earth with one of dung. In fact such is the uncertainty in the composition, that almost every farmer adopts one peculiar to himself, and with equal success. No man need therefore follow implicitly the rules which have been laid down in this department of rural economy, but may vary and multiply his experiments, according to the suggestions of fancy or the dictates of convenience. If we slightly glance at the principle, we shall see the cause of this seemingly endless variety in the combinations of the ingredients. The only use of intermixing the soil with the dung is to imbibe the gaseous elements of vegetable life, and hinder their dissipation. If their be much soil, these elements will be diffused through it with less density and compression; if little, it will be more abundantly saturated and enriched with the nutritive vapors. The only error into which the farmer can run is to supply such an inconsiderable quantity of soil as will be incapable of imbibing the elastic and volatile particles, and thus by his own mismanagement, occasion a waste of the vegetable aliment. One cart load of soil to two of stable-dung is the least proportion which he should ever attempt to combine, and perhaps if the two were mixed equally, he would be compensated for the additional labor and expense.

'Simple earth, although excellent for bottoming and strewing over the pit dug near the barn, is of all materials, the most unprofitable in compost dunghills. A matted sward, thickly entangled with roots, or mud dragged from the bottom of bogs or ditches, and replete with aquatic plants, are clearly preferable on this account, that, besides bringing earth to the composition, they supply a large proportion of vegetable matter. Whenever the soil must be carted to the heap it is better to lay out the expense in transporting these enriching materials; because they will not only equally absorb and retain the evaporating gases, but greatly augment the quantity of manure.'*

* Letters of Agricola, by John Young, Esq.

The path proper for a farmer to pursue in order to make the most of his manure, and preserve his own health and that of his family, is as plain as a turnpike. Whenever putrid fermentation is going on in any part of his premises, and consuming his substance by a slow but wasteful combustion, let him apply earth, peat, or some other earthy substance in quantities sufficient to attract, imbibe, and retain all the affluvia. Health, profit, and cleanliness equally require such a proceeding. If a man were to swallow daily a quantity of filthy matter, or to eat his food impregnated with vapors from a manure heap, or from some other putrefying and offensive substance, when he might by a little exertion avoid such nauseous viands, and substitute something nourishing, palateable, pure, and wholesome, we should esteem him no better than a Hottentot. But a man may almost as well take filth into his stomach, as filthy effluvia into his lungs; he may about as well dine with a crow or a buzzard as sup with a toad 'on the vapor of a dunghill.'

The farmer who arrests the rank vapors which emanate from decaying animal and vegetable matter, and instead of permitting them to pass into and contaminate the air he breathes, treasures up the invisible particles with which they are laden, and applies them to feed useful vegetables, causes the atmosphere to be healthy, and his plants to be thrifty by the same means.

From the Genesee Farmer.

Raising Pork.

The business of fattening pork for sale is practiced to some extent by most of our farmers, and when performed economically, or when the most is made of the materials given them, it is undoubtedly a source of handsome profit. Yet all will admit that when carried on in the manner it sometimes is, the process of pork making drains, instead of replenishing the farmer's pocket.

To make fattening hogs profitable, it is necessary, first of all, that the breed selected for feeding should be a good one. There is a vast difference in hogs in the respect of easy fattening, proper proportion of bone, weight, &c. and the farmer who thinks to make money by feeding the long snouted, hump-backed, slab-sided animals, that are too frequently found among farmers, and disgrace the very name of swine, will find in the end that he has reckoned without his host, and thrown away both time and money. There are several good breeds of pigs now in the country, mostly produced by crossings of other kinds with the Chinese, and of course having different degrees of aptitude to fatten; and these breeds have been so disseminated over the country, that any farmer who is will-

ing to make the effort, may have some improved animals in his pens. The time has gone by when a hog should be kept four years to weigh four hundred; the business of fattening is little understood were hogs of a year and a half do not reach that amount, and some pigs have even exceeded that weight.

Next to selecting good breeds, it is requisite that they should be kept constantly growing. There must be some foundation for fattening when the process commences, or much time will be lost in repairing errors, and much food consumed in making carcass that should be employed in covering it with fat. Hogs should be kept in clover pasture, a field being allotted to them for their exclusive use, so large in proportion to their numbers that the feed may always be fresh, yet not so much so as to run up to seed, or to grow coarse or rank. They should have the slops of the kitchen, the whey or buttermilk of the dairy, unless this is required for young pigs, and in general every thing they will eat to advantage, or which will promote their growth.

The manner in which the materials intended for fattening pork is prepared and fed, has a decided influence on the rapidity of the process, and of consequence on the aggregate profits. If given out raw much of the value of the article is lost; grain is much improved by grinding, but the full effect of all kinds of feed is only brought out by cooking. Corn is, without a peradventure, the best article ever produced for making good pork; and though other substances may occasionally be used with advantage, and may produce pork of fair and good quality, yet experience has proved that the real corn fed meat is on the whole superior to all others. Hogs will fat on corn given to them in any state, yet it is far preferable when soaked, ground, steamed or boiled. A farmer of our acquaintance, and who is celebrated for the weight of his hogs, and the excellence of his pork, is in the habit of mixing oats with his corn before grinding in the proportion of about one-fourth, and thinks that if he had not the oats of his own, he should be a gainer in exchanging corn, bushel for bushel, for oats, rather than not have them to mix with his swine feed. He thinks they eat the mixture better than clear corn meal, are less liable to a surfeit, and of course will fat much faster with the oats than without them. Peas have generally been ranked next to corn as an article for making good pork, and they are probably the best substitute that has yet been found, hogs feeding well on them, fattening rapidly, and the pork being of good quality. It is almost indispensable that peas should be ground or soaked previous to feeding. Potatoes are more extensively used for fattening hogs than any other of the cultivated roots, and are probably the best of the whole for this purpose. Unless they are boiled, however, they are of little value comparatively, but when cooked they will give the hogs a fine start in feeding, and they may then be easily finished off with corn or peas. The fattening of hogs on apples may be considered as one of the successful innovations of the age, it being certain that this fruit possesses a value for that purpose which but a few years since was wholly unknown. The success of this experiment has given a new value to orchards, and will probably check their destruction, which in some sections of the country, had already commenced to a considerable extent. The various reports from gentlemen of intelligence of the practical results of apple feeding are most gratifying, and we have no doubt the system will be fully approved wherever fairly tested. Where convenient let the hogs lie in the orchard from the time the fruit begins to fall, till it is time to gather apples for winter or cider, and they will in most cases be found respectable pork. When it is necessary to put them in the pen, boiled apples mixed with a small quantity of corn, oats, peas, or buck-wheat meal, will fill them up rapidly, make them lard well, and fill the farmers' barrels with sound sweet pork of the first quality. If any however are doubtful, they can easily finish off their apple fed pork, as is generally done with potatoe fed, with corn or peas, and with similar results.

[We intend in the course of the present work to treat on the diseases and management of cattle, the most successful and proper modes of treatment, &c. For this purpose we have solicited the aid of a few practical and competent individuals; and we hope ere long to commence a series of papers on CATTLE and SHEEP Husbandry, which will not only interest but profit our readers.]

Our duty to Domestic Animals.

WARREN, *Chester Co. Sept.* 28, 1836.

MR. EDITOR—Our duty to our domestic animals is of vast importance, and I regret that it is not in general duly appreciated, fully understood, and properly practiced. This part of the brute creation have great and imperious demands upon us—they require care and attention. They are subject to many serious and fatal diseases, and it is incumbent on all who may own or have the management of animals to make themselves acquainted with the diseases to which they are lia-

ble, together with the best and most effectual remedies to be applied. Knowledge and instruction, both scientifically and practically, is greatly needed—a commendable spirit, (a thirst after information on subjects of utility) is now abroad among our farmers. In this I rejoice, and hope that this spirit may be cultivated, confident that it will produce an abundant harvest, richly rewarding all who give to it proper attention. I send you a few extracts from a lecture, delivered some time since by that great and good man, the late Dr. RUSH, of your city, on the duty and advantages of studying the diseases of domestic animals and the remedies that are proper to remove them. He lays it down as a rule that the physician is bound to embrace in his studies and labors, the means of lessening the miseries of that part of the brute creation over which man has retained his dominion since his banishment from paradise. He says, "we are bound to study the diseases of domestic animals, and the remedies that are proper to cure them, by a principle of gratitude. They live only for our benefit. They cost us nothing in wages or clothing. They require in exchange for their labor, and all the other advantages we derive from them, nothing from us but food and shelter, and these of the cheapest and coarsest kind, so that there is constantly due to them, an immense balance of debt from us. This motive to take care of their health and lives will appear more striking when we consider the specific benefits we receive from each of them. The HORSE is not only an important appendage, but a necessary part of the cement of civilized society. He ploughs our fields,—he drags home our havests and fruits to our barns and cellars. He conveys them from distant countries, over rough and difficult roads, to our market towns and sea ports. He receives in exchange for them, the products of foreign nations, and conveys them to the interior and remote parts of our country. He keeps up the inland connection between different states by means of stages and posts, and thus favors the quick communication of intelligence, and the increase of national intercourse, commerce and happiness. He administers to our health and to our pleasures under the saddle, and in harness. He keeps up society and friendship in neighborhoods too scattered in its population to admit of visits upon foot. In vain would country churches and courts be opened, without the strength of this noble animal; nor could the great system of representative government be supported in an agricultural country unless he conveyed the elector to the place of suffrage. In maintaining the freedom and independence of nations, the horse bears a distinguished part. When caparisoned with the furniture of war, he feels with his rider, the courage and the pride of arms. Nor let us forget his sagacity in discovering roads, and choosing the safest parts of them, when inattention or darkness has rendered his rider, or driver unable to discover them.

To the HORNED CATTLE we are indebted for many of the blessings and comforts of life. The strength and patience of the ox in the plough and the team, have added to the wealth of the farmer in every age and country. The cow has still greater demands upon our gratitude. Her milk, in its simple state, furnishes subsistence to a great part of mankind. Its products in cream, butter and cheese, form the most agreeable parts of the aliment, and even of the luxuries of our tables. A pustule upon her udder supplies a matter which, when introduced into the body, defends it for ever from the small-pox, and without substituting in its room, a painful or loathsome vicarious disease. Millions in every part of the globe unite with us in expressions of gratitude to heaven for this important contribution to the happiness of the human race. But our obligations to this benefactor of mankind, and to her whole species, do not cease with their lives. Their flesh affords us the most agreeable aliment after death. Their tallow and the oil which is interposed between their joints, supply the absence of the sun in candles and lamps, whereby labor and study are profitably extended during a part of the night. Their hair affords a necessary ingredient in the plaster of our houses. Their skins protect our feet and legs in the form of shoes and boots from the injuries of the weather. They furnish likewise coverings for our books and pleasure carriages, and saddles for our horses. Their horns supply us with combs, and even their bones are converted when fresh into aliment, and when dry, into a salt of extensive use in medicine and in a variety of the arts.

SHEEP occupy the next rank in the list of domestic animals in their claims upon our science. They afford us by their wool a covering from the inclemency of winter during every year of their lives, and by their deaths they supply us with a delicious aliment in the forms of lamb, and mutton.

The HOG is said like the miser to do good only when he dies. But this is so far from being true that he is dishonored by the comparison. He fattens upon the offals of our kitchens, and performs the office of a scavenger in cleaning the streets of our cities from putrefying masses of animal and vegetable matters. At his death he bequeaths us his flesh for food, his hair for brushes, and his fat for medical and culinary purposes.

The immense and profitable disproportion between the labor of the ASS and the MULE, and the expense of their food render their health of great importance in those countries where wheel carriages cannot be employed to convey the products of the earth to a public market.

The GOAT by its contributions of the delicate flesh of its young, and of its medicinal milk to our use, is entitled to a share of medical attention.

The courage and fidelity of the DOG in defending our persons and property from the midnight assassin and robber, and the usefulness of the CAT in destroying or chasing from our houses the mischievous animals that infest our cellars and closets, entitle each of them to an inquiry into the causes and cures of their diseases.

It remains only to mention the claims of POULTRY of all kinds, to a physician's care. They adorn our yards and fruit trees with their plumage. They inform us by their crowing, and other noises of the approach of day. A part of them furnish us with eggs for aliment, with quills for writing, and with feathers for our beds; and all of them, in a greater or less number at a time, generally constitute after death a portion of our banquets, where a display is intended of hospitality or elegance.

In addition to what has been said in favor of domestic animals in their individual capacities, I shall only remark that collectively they lessen the solitude and silence of a country life. They please us with their gambols when young, and delight us by their looks and gestures in mature life, every time they receive food or shelter from our hands. They furnish the means of encreasing and perpetuating the fertility of our lands, and finally they gratify us with a sense of our sovereignty over their labor and their lives; and thus furnish us with a small portion of that pleasure which the father of the human race enjoyed, when he received from his Creator the commission of his extensive dominion over all the creatures that live and move upon our globe.

Another reason why we are bound to study the causes and cure of the diseases of domestic animals, is because nature is wholly *passive* in such of them as are violent, or does harm in her efforts to remove them. This is evident in a more especial manner in the epidemics which sometimes prevail among them. The horses, cattle and sheep, of large neighborhoods, and extensive districts are often swept away by those general diseases where no aid is afforded from medicine

By studying the diseases of our domestic animals we may rescue them from the hands of quacks, who add to the mischievous and unsuccessful efforts of nature the evils of absurd, painful, and destructive remedies.

THE DAIRY.—NO. IV.

The first and very important measure is to provide a sufficiently large and convenient dairy house, whether the object be butter or cheese. It should be proportioned to the number of cows, and be sufficient for performing all the necessary operations without embarrassment.—"Much attention must be paid to cleanliness in every thing that relates to it, such as the shelves, floors, and different implements which are made use of, by daily scalding, scrubbing, rinsing, and drying, in order to prevent any sort of acidity taking place; for without due regard in these respects, it is impossible that the produce can be of superior quality, or such as will keep sweet and good for any length of time. Cleanliness is the least indispensable part of good management." "A Farmer may have the most valuable breed of cows, and they be fed on the richest pastures, but unless cleanliness prevail in the dairy, his butter or cheese will never stand high in general estimation.

This building should be placed over a cool spring, and trees planted round it for shade. Where there are no springs, the house should be built near the dwelling house, and an ice house close to it. All the utensils connected with the dairy, must be kept perfectly clean.

The milk pans may be of any convenient width, but not to exceed *four inches* in *depth*.

"The milk should be strained *into the pans as soon as possible* after it is taken from the cow, and with as little *agitation as possible*, and where the dairy is large, a pail full, as soon as milked, should be strained into the pans. Great loss is sustained by agitation and cooling; and this mode more particularly enables the owner of the dairy to separate the good milk from the bad. Without such attention the whole of his dairy products may be greatly depreciated by the milk of one bad cow." The quantity of butter must depend on the quality of the milk, as well as the management of it; it is therefore important to separate the inferior quality of the milk in the first instance, as it secures the best quality of butter: and the inferior may be converted into the use that is found most profitable. There is not only a difference of milk in different cows, but a *difference in the same cow*.

The following is the opinion of Dr. Anderson, a contributor to the Bath Papers on agriculture. "The writer is satisfied from experience and attentive observation, that if

in general, about the first drawn half of the milk is separated, at each milking, and the remainder only set for producing cream, and if that milk is allowed to stand to throwing, the whole of its cream, even till it begins sensibly to taste sourish, and if that cream is afterwards carefully managed, the butter thus obtained will be of a quality greatly superior to what can be usually obtained at market, and its quantity not considerably less, than if the whole of the milk had been treated alike. This therefore is the practice that is thought most likely to suit the frugal farmer, as his butter, though of a superior quality, could be afforded at a price that would always insure it a rapid sale."

THE DEGREE OF HEAT PROPER TO RAISE THE MOST CREAM.—The precise heat has not been fixed by experiment, but "from the trials that have been made on this subject, it is believed, that when the heat is from 50 to 55 degrees in Fahrenheit's Thermometer, the separation of cream from milk proceeds with the greatest regularity, and in the most favorable manner. When the heat exceeds 60° the operation becomes difficult and dangerous; and when it falls below 40° the operation can scarcely be carried forward with any degree of economy or propriety."

ON THE PROPER TIME FOR SKIMMING MILK.—It is the opinion of some of the English writers, "that for *very fine butter* the milk ought not to stand more than 6 or 8 hours; for *ordinary good butter* 12 hours or more."

SKIMMING.—This requires a dexterity that can be acquired only by practice, but it must be well done, for if any part of the cream is left, the quantity of the butter will be diminished, and if part of the milk is taken, the quality will be the worse for it.

THE MODE OF KEEPING CREAM.—When the cream is separated from the milk, it ought to be put *immediately* into a vessel by itself. No vessel can be better adapted for this purpose than a neat made wooden barrel, in size proportioned to the extent of the dairy, open at one end, with a lid exactly fitted to close it. Close to the bottom should be placed a cock, for drawing off, from time to time, any thin serous part of the milk, that may have generated, which, if allowed to remain, acts on the cream, and greatly diminishes the richness in the quality of the butter. The inside of the opening should be covered with a bit of close fine wire, to keep the cream back while the serous is allowed to pass; the top of the barrel should be inclined a little forward.

ON THE TIME OF KEEPING CREAM BEFORE CHURNING.—Epping butter is in high repute for its superior quality, and "the cream is seldom kept above 3, or at the furthest 4 days, but always till there is a certain degree of *acidity* in the cream either *natural or artificial*, as without it they cannot ensure a good churning of butter; some keep a little old cream for this use, otherwise a little rennet.

In Suffolk, in a large dairy, with a high character for making butter of a superior quality and where the butter was to be sent *directly* to market, the cream was churned the second or third day, but when it was to be salted, it was kept a day or two longer, or till it had acquired a certain degree of acidity. The reason assigned was, "that butter from the freshest cream was better and pleasanter to the taste, but that which was kept longer would take the salt better."

From the result of the experience in England, and experience and observation in this country, it is well ascertained, that *acidity* in the cream is absolutely necessary before butter can be produced. It is for this reason that it is difficult to produce good butter in winter. Heating the cream with warm water is a common practice, and it is a long while before the butter is produced, and is usually white, hard, and bitter, with very little taste. The writer has, in times past, in winter and spring, used a small quantity of vinegar, which has never failed to produce a good effect. But the Epping practice of using rennet is recommended. If acidity in the cream is necessary, and this is acquired by standing, the following course is suggested to prevent the churning of *new* and old cream at the same time.

If the dairy is large and cream is churned three times in the week, four vessels to hold cream should be provided, and two day's cream put into one, say Monday's and Tuesday's, and churned after the acidity has taken place, and the amount of the acidity must be regulated by experience.—An extract from Dr. Anderson will close this head. "The separation of butter from cream, only takes place after the cream has attained a certain degree of acidity. If it is agitated before the acidity has begun to take place, no butter can be obtained, and the agitation must be continued until the sourness is produced, after which the butter begins to form. In summer while the weather is warm, the beating may be continued until the acidity is produced, so that butter may be got; but in this case the process is long and tedious, and the butter for the most part, of a soft consistence, and tough and gluey to the touch. If this process is attempted during the cold weather in the winter, butter can scarcely be in any way obtained, unless by

the application of some great degree of heat, which sometimes assists in producing a very inferior kind of butter." The judicious farmer should not attempt to imitate such practice, but allow his cream to remain in the vessel for keeping it, until it has acquired that proper degree of acidity that fits it for being made into butter with great ease, and by a very moderate degree of agitation; by which process only very fine butter can be prepared.

CHURNING.—The process of churning is necessary to force out the serous fluid from the cream in order to produce butter. This is done by agitation and in a churn. There are various kinds of churns, but the best churn is the one that will preserve the proper temperature, or the same temperature that is in the churn and cream when put into it. In warm weather cold water for some time is to be put into the churn, and in cold weather scalding water, and also putting hot or cold water in the cream according to the season. As it is important to preserve the same temperature while churning—the best churns are those which are used in an horizontal position—such as the stationary barrel with dashes to move in the inside. A small churn is in use on this principle, and answers a good purpose, as a hole of sufficient size from one half an inch to an inch, may be made on the top, to let out the warm air produced by the agitation of the cream, and to admit the cool air. A barrel churn of this kind has been used, when 36 to 38 lb. of butter was made twice a week. An extract from Dr. Anderson is given to show great care is needed in churning.

"In the process of churning greater nicety is required, than most persons are aware of; a few hasty irregular strokes may render the whole of the butter of scarcely any value, and, but for this circumstance would have been of the first quality."

MAKING UP THE BUTTER.—It is not necessary to describe the common mode of preparing the butter for market, when taken from the churn. The object is to take from the butter all the serous liquor—which is done by letting it off, and washing the butter by change of water until it is pure, and not discolored. The advantage of the churn above recommended is going through this process without the use of the hand—and working the butter after it is separated from the serous liquor. Even the salt may be worked in, in the churn. If butter worked in a barrel churn where was put ½ an ounce of sugar, salt petre and salt to a pound of butter into the churn and when well worked it was put in thin layers in firkins with another ½ ounce of the above spread on each layer. This butter was sent to the West Indies, and a firkin was kept until the vessel returned with lumber from a Southern port, and was in prime order.

It is agreed by all good butter makers "unless the milk is *entirely taken away*, the butter will infallibly spoil in a short time, and if it be *much worked* the butter will become tough and gluey, and it should be salted *as soon as the milk is removed*.—*Maine Farmer.*

Food of Horses.—The coach proprietors in Scotland who have lately adopted the plan of cutting the hay and bruising the oats before they are given to the horses, save one fourth of the quantity, and the horses are kept in better condition than before. We are aware that there is nothing new in this plan, but hitherto it has not been much adopted. Other persons mix potatoes and turneps with barley dust, straw and salt, which it is said, has been found to be a very nutritious diet for horses.

To extract Grease Spots from Clothes.—Spirits of Turpentine is frequently used for this purpose, but in clearing one spot by this process, we have found to our sorrow, another in its place, deeper and broader. Highly rectified alcohol is now recommended. The mode of using it is this; a small piece of sponge is wet with it, and rubbed upon the spot very thoroughly, until nothing can be seen, and the cloth nearly dry. In this way grease spots can be taken out from various kinds of silk, from cloaks, from carpets, from the collars of coats, &c. If the alcohol be good and the application judiciously made, the instances of failure will be comparatively rare. When the garment can be washed, good soap and soft water will uniformly succeed in common grease or oil spots; but if any rosin or wax be present, alcohol is indispensable.

Receipt for Pickling.—After cleansing your cask, put first a layer of white oak leaves, and then a layer of Cucumbers, or whatever your pickles consist of, and so on to fill your cask; intersperse between each layer, mustard seed, horse-raddish, &c., and to every twenty cucumbers one bell of pepper. Form a composition of clean salt and water, not hardly sufficiently strong to bear an egg, to every gallon add one quart of good vinegar; scald and scim this pickle, and after cooling to a degree of blood warmth, add it to your cask, and cover it tight.—If rightly performed, this method will preserve pickles the year round, and form a very agreeable sauce.

FIG. 1.

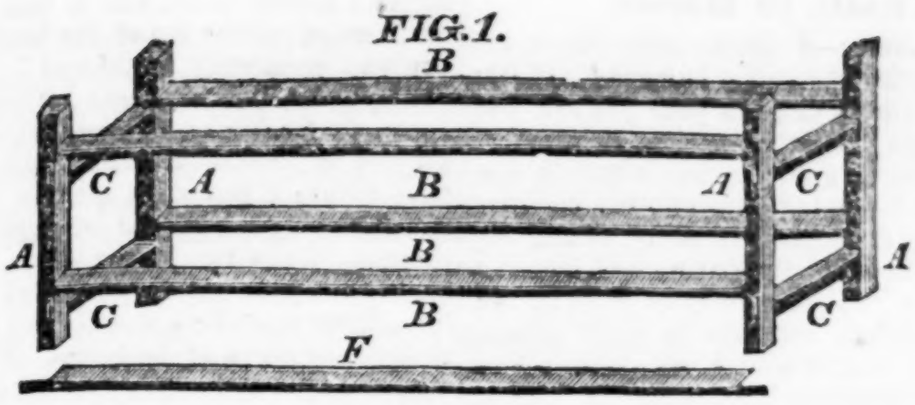
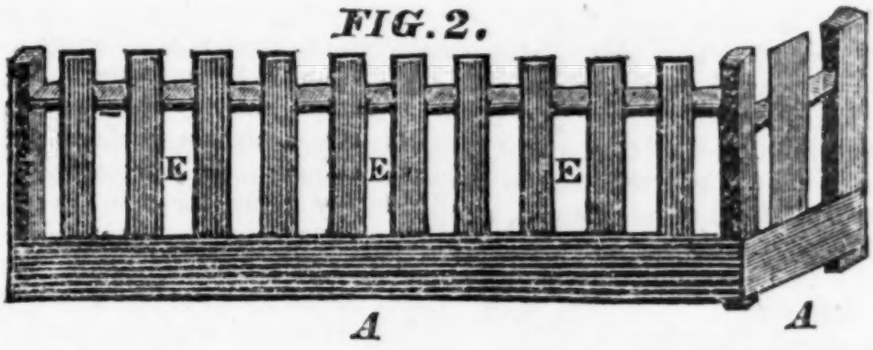


FIG. 2.



Sheep Racks.

The above plan of a sheep rack, an improvement of Mr. John Powers, of Urbana, Steuben county, N. Y., an intelligent and experienced wool grower, is highly approved in that part of the country. For convenience, simplicity of structure, and durability, we think it the best we have ever seen. It takes the precedence here of all others. The draft we took from one in Mr. Powers' yard. This rack is composed of a frame of four posts and eight horizontal pieces, on which are nailed upright slats, and a board around the bottom. Fig. 1 represents this frame, and fig. 2 a front and end view of the rack after it is finished.

Frame, 11 feet long by 2½ feet wide from outside to outside.

Posts (*a. a. a. a.* fig. 1) 3½ feet high, made of three inch scantling.

Horizontal pieces (*b. b. c. c.*) at the sides and ends made of stuff three inches wide and an inch and a half thick, framed into the posts by boring with an inch and a half auger, and inserting a round tenant, the flat side up. The shoulders of the tenant are cut on the inside as represented by *f*, so that when put together the slats will be even with the outer edge of the posts. The lower side pieces are 11 inches from the bottom of the posts—the lower end pieces 8 inches. The upper side and end pieces 2 feet above these from center to center of the tenants.

The slats, (*e. e. e.* fig. 2,) 6 inches wide, made of three quarter or five eights stuff, nailed on with six-penny nails, 6 inches apart, thus making a space of just one foot for each sheep, with sufficient room for inserting the head between the slats; at the ends, two of these are placed together in the center, making interstices of 6 inches between them and the posts.

The bottom board, (*A. A.* fig. 2,) 9 to 12 inches wide—the top edge comes up 13 inches from the bottom of the posts, covering the horizontal pieces and the lower ends of the slats; it is nailed firm on to the posts and the horizontal pieces.

As the space at the sides is just ten feet six inches in the clear between the posts, there are eleven interstices of six inches each—and the rack it will be perceived will accommodate 26 sheep—*eleven* on each side, and *two* at each end. It is of such a height that the sheep will not jump into it; the fodder is so secured that it is not trampled under foot, and wasted, but may be eat up clean. The rack, it will readily be perceived, is very simple and easy of construction; any person with the least share of mechanical ingenuity, who can handle a saw, an auger, and a hammer, can make one. It is strong, and not subject to be racked to pieces; light and easy to be removed from place to place; convenient for the use for which it is designed, and, if properly taken care of, placed under shelter during that part of the year when it is not wanted, will last for a great many years. We would recommended to all who raise sheep, and who regard economy in the use of fodder as important, a rack of this construction.—*Genesee Farmer.*

Cholic in Horses.

MR. EDITOR:—I herein send you a receipt for curing the cholic in horses. If you think it worthy a place in your journal, you will perhaps confer a service on some of your readers, by giving it publicity. A few weeks ago, I was traveling into the country. Before I had progressed many miles, my horse showed evidently that he was laboring under cholic. He became quite loose in the bowels, swelled, and was in great agony. Fortunately I met with a wagoner, whose kindness relieved my beast from his illness, and myself from, perhaps, a long walk. His remedy consisted in tying upon the horse's bit, a piece of *tobacco*. This being done he told me I could proceed upon my journey; assured me, that the horse would get well before I got one mile, and that he would not be troubled again, while the tobacco remained on the bit. I did as he directed, and to my perfect astonishment my horse became relieved as soon as he swallowed the saliva created from the tobacco. L. B. S.

Charleston, April, 12, 1836.

We think our correspondent must be somewhat mistaken as to the effects of the tobacco. We are opinion, that the tobacco, used upon the bit, is a preventive of cholic, in its incipient state; but once the cholic has been violent upon the animal, we are confident, that a more active remedy must be used. In violent stages of cholic, we have seen tobacco tea given with excellent effect. We have heard of many receipts for this disease with which horses are so frequently plagued; but we venture to assert, that none will be found more simple and sure, than the following: Take of laudanum 6 or 7 table spoonfulls—of mustard, the larger portion of a bottle—mix those in a pint of whiskey, or water, and give the mixture in a horn or bottle to the horse. We have seen this dose applied to horses which were so far gone with cholic, as to be perfectly cold and stiff. In one instance, when the horse could not swallow, the mixture was administered with an injection pipe, and the horse recovered in an hour afterwards. When the severe pain has been alleviated, a dose of oil should be given. One pint will answer as a dose.—*Editor Southern Agriculturist.*

From the Genesee Farmer.

Split Hoof in Horses.

A correspondent of the Doylestown Intelligencer, remarking on the great number of horses that get split hoofs in consequence of having been corked during the bad going last season, says, "a number of expedients were resorted to to cure the *split*. Some had bands drawn round the hoof, but these were rather a clumsy affair, and in case the split commenced on the top of the hoof the remedy was completely ineffectual." After alluding to the inconvenience of keeping the horse idle for four or five months,—the plan adopted by some—the writer adds, "But I have within a few days seen an expedient which is very simple and promises complete success. I saw two horses which had their hoofs split, from *corkings* received last winter. They were kept steadily in a team, and showed no signs of lameness. Some time after the split in their feet, various expedients having been tried without success, a blacksmith suggested *boring the hoof in two places*, on each side of the opening, and then passing nails through the holes and clinching them tightly. The owner of the horses had the operation performed immediately; and, although the horses had been used in a heavy team for many weeks before the time of my seeing them, their feet looked well; and I have no doubt that the horses will not be again afflicted with lameness. If the hoof should again incline to split, it will be easy to insert a single nail."

Bees.

Some persons that keep Bees neglect to take them up until some weeks after they have been consuming the honey in the hive. The bees cease to procure honey as fast as they consume it earlier in the season than is generally supposed. They lose after the first of September unless they have access to Buck-wheat that is in bloom. They will not generally collect honey enough to support them in the two last weeks in August unless the weather is very favorable to their laboring, and the season is wet, so as to keep a supply of honey in the flowers. We have sometimes weighed hives every week or fortnight and have found that in a dry season the hives were heaviest the last of July. A hive that gained ten pounds a week in the last of June and first of July, lost 3 lbs. from July 23, to Aug. 6th. During this fortnight, the weather was as warm as it had been any time in the season, but it was very dry, and of course the flowers afforded but little honey. If any person supposes that bees will gain, at this season of the year, let him weigh his hives every week, and he will soon be convinced to the contrary, unless his bees have unusually good pastures.—*Yankee Farmer.*

Beet Sugar in England.—Agriculturists in England are beginning to turn their attention to the cultivation of beet-root, in consequence of the success which is understood to have attended the attempts to make sugar from it in France and elsewhere.

Microscope.—Polypi.

The different species of sponge, which the Microscope has discovered to be the habitations of Polypi, are very interesting objects; when viewed with an instrument of a moderate power, they present to the eye a curious mass of net-work, which once formed the cells of the Polypus. If the power is increased, the remains of the little tenants may sometimes be detected. These consist of a small bony or chalky axis, like a needle, which, when the animal was living, formed the centre of its body.

There is a small species of sponge found frequently among seaweeds, from its appearance called "Crumb-of-bread sponge," which, when placed under the magnifier, seems to be almost entirely composed of bunches of little needles, lying across each other like little net-work. B is a magnified representation of a small piece of this species. When dry, the little needles, or spiculæ, are so extremely fine and sharp, as to cause a most irritating itching, if unluckily they should get between the fingers of the observer.

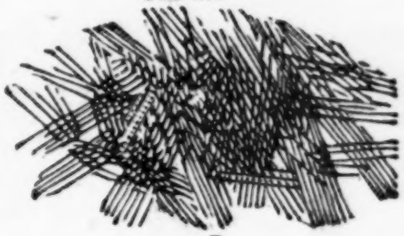
The animal of the *Corallines*, which are found so abundantly on every coast, attached to stones and other substances, belong to the same class, and the houses they construct are excellent objects for the microscope.

The annexed cuts are representations of five different species, engraved of the natural size, and accompanied by a portion considerably magnified.

In figures 18, 19, and 20, the Polypi themselves are seen, with their feelers put forth in search of prey.

Fig. 16.

Fig. 17.



B

Fig. 18.

Fig. 18. *Sertularia pumila*, Great tooth-coralline.
19. ——— *potyzonias*, Sea-tamarisk.
20. ——— *halecyna*, Herring-bone coralline.
21. ——— *antennina*, Lobster's horn coralline.
22. ——— *lendigera*, Nit coralline.

Fig. 23 represents a magnified view of the *Hydra brunnea*, or brown Hydra, another species of Polypus, which is not uncommon in fresh water in the months of July and August. The cut shows the manner in which the young are produced. These Polypi have been the subjects of many curious experiments, which show the surprising tenacity of life in the lower order of animals. They have been cut across, divided lengthwise, and even turned inside out, and yet each portion has not only continued living, but has become a perfect animal.

Fig. 19.

Fig. 20.

Fig. 21.

Sea-weed and other substances, which have been left for some time undisturbed, are frequently found covered with a chalky incrustation, which appears to the naked eye like net-work, but, if placed under a moderate power, exhibits a series of little cells or chambers, most beautifully formed: each of these tiny nests originally contained a

living creature. The name given to these Polypi is *Flustra*, and they are extremely abundant on the sea-coast in every latitude. Figures 24 and 25 are different species.

A, fig. 24, is a piece of the Flustra of the natural size, covering a sea-weed; B is an enlarged view of the cells; and C the animal itself.

Fig. 22.

Fig. 23.

Fig. 24.

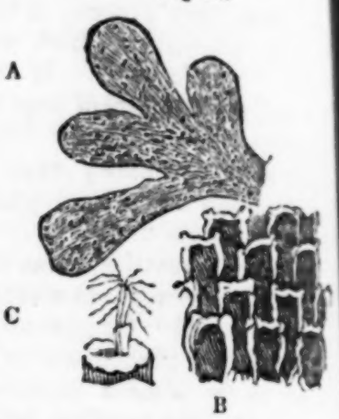


Fig. 21. *Flustra foliacea*, Broad-leaved hornwrack.

25. ——— *pilosa*, Prickly hornwrack.

26. Chalky axis or centre of a coralline very common on the English coast.

27. The great tooth-coralline, covered with minute shells.

28. The pitcher hornwrack, a native of the Red sea.

29. Animal of a Polypus very highly magnified.

Fig. 25.

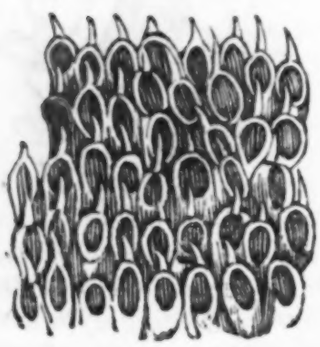


Fig. 26.

Fig. 27.

Fig. 28.

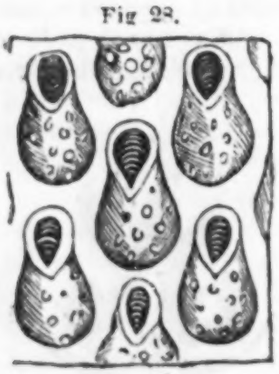


Fig. 29.

The corallines appear to the naked eye, from their branching form, and from being fixed at the base to some other substance, more like vegetable than animal productions, and for a long time were known by the name of Zoophites, that is, animal plants, and were considered as the link between animal and vegetable life.

The red coral of commerce, of which beads and necklaces are made, is formed by an animal of the class Polypi; but instead of this stony deposit becoming a dwelling place, in which its ingenious architect retreats for safety from outward injury, it merely answers the purpose of a strong support, surrounded by a thin fleshy substance, in which a numerous tribe of minute Polypi form their fragile dwellings.

In contemplating the slight and diminitive forms of this curious portion of the animal kingdom, we are apt to consider them as acting some very subordinate part; but the geologist can inform us, that the united and constant efforts of these specks of animation have been productive of gigantic effects. A great portion of the South Sea Islands have their foundations formed of coral reefs; that is, immense masses of different species of corals and corallines, in which, in the first instance, sea-weeds and other substances became entangled; as these rotted, a vegetable mould was produced; the sea-birds fre-

quented them, and brought different kinds of seed from other places, whose growth and decay still continued to add to the soil, till at length it became of sufficient depth and substance to offer a resting-place to some enterprising fishermen.*

From the Pittsburger.

Caution to the Public.

MR. EDITOR—Sir: Will you permit me to acquaint the public, through your valuable journal, that there is a kind of Crockery Ware, manufactured in almost every city in the Union, which is dangerous to use—and which the public will understand by the term Common Red Pottery. This ware is made of common clays from the brick yards, and when formed, is coated with a liquid called Glaze, which is nothing less than a coat of lead. The clays being of the commonest kind, cannot be subjected to any heat in the burning that will make them safe for family use—*being porous*—and it is very unsafe to deposit any articles of family use in them, such as milk, butter, or in fact water, as a portion of the Lead Glazing will be extracted, and the article will, in consequence, become dangerous to use. I have noticed no fewer than ten instances within the last twelve months, of families sustaining injury by the use of such ware.

In selecting the article of crockery that is suitable for family use, it is only necessary to ascertain that the body of the ware—the clay—has been hard burnt, which any person can understand by the sound of it—if well burnt, it will have a clear sound. The poorest kind will not ring at all, and therefore can be easily detected. An article of this kind will, in the course af a month's use, become very foul. Let any one who doubts this break the vessel, and they will ascertain the fact. There is a kind of ware, however, that is manufactured in almost every city in the Union, called stone ware, which is perfectly good for family use. This ware is formed of strong and superior clays, and undergoes a great heat in the burning,—and moreover, the glazing is not a thick coat of lead, but is accomplished by throwing salt into the kiln. All kinds of Liverpool ware are adapted to all purposes of family use, being made of sound clays and well burnt. As a preventive is better than a cure, if I should be the means of preventing any person suffering from the use of the poisonous article—lead—this advertisement will answer the ends I design.

C. S.

[Glass may be used in all cases, and is the most beautiful and safe article extant in manufactures.]

*We commend this department to the attention of youth; it will afford them instruction, while to those of maturer years it will not be uninteresting.

Independence of the Farmer.—The merchant or manufacturer may be robbed of the reward of his labor, by changes in the foreign or domestic market, entirely beyond his control, and may wind up a year, in which he has done every thing which intelligence and industry could do to insure success, not only without profit, but with an actual diminution of capital. The strong arm of mechanic industry may be enfeebled or paralized by the prostration of those manufacturing or commercial interests to whose existence it so essentially contributes, and on whom in turn it so essentially depends. But what has the intelligent and industrious farmer to fear? His capital is invested in the solid ground; he draws on a fund which from time immemorial has never failed to honor all just demands; his profits may be diminished indeed, but never wholly suspended; his success depends on no mere earthly guarantee, but on the assurance of that great and beneficial Being, who has declared that while the earth endureth, seed time and harvest shall not cease.

To make Tomato Ketchup.—For half a gallon take a gallon of skinned tomatoes, four table spoonfuls of salt, four of black pepper, half a spoonful of alspice, eight pods of red pepper, three table spoonfuls of mustard; grind them finely, and simmer them slowly in sharp vinegar, in a pewter basin, three or four hours, strain it through a wire sieve, and bottle it closely. Those who like the article may add, after the ingredients are somewhat cool, two table spoonfuls of the juice of garlic.

Black Oats.—The editor of the Macon, Ga., Messenger, says he has examined a sample of Black Oats, raised on pine land of common quality, and found them to contain two hundred and forty-eight grains to the head, whereas the heads of the common oat, on the same land, yielded but eighty-four. This is a very great difference in product, and if the former contain as much farinaceous matter as the latter, it is certainly an invaluable variety.

Palm Leaf Brooms, are becoming an extensive article of manufacture. The high price of broom brush, and consequently corn brooms, has set the ingenious ones contriving a little, and they have got up a nice article, made from the palm leaf. They sell from a shilling to twenty-five cents, and are said to be a good article. Three loads from New Hampshire for New-York, passed through this town the other day.

Northampton (Mass.) Courier.

BOTANICAL EMBLEMS.

AMARANTH—EMBLEM OF VIRTUE.

The fadeless treasure of the mind, the distinguishing attribute of our nature, in its state of primeval goodness, is emblematically represented by the amaranth, whose flowers on the authority of poesy, are endowed with the quality of perennial bloom. Though autumn's chilling winds assail its leaves, or wintry tempests bend the slender stem, yet still its purple flowers unfold their beauties to the light, unblighted by the passing blast—uninjured by the lapse of time; lasting and bright as the rays which surround the hallowed fane where virtue is enshrined. The moral of this poetical illusion has been thus rendered by an anonymous writer:

Though chilling winds may blow,
And blossoms meet their doom;
One lovely flower will grow,
And live in fadeless bloom:
When summer hues are fled,
And wintry blasts deform,
'Twill rear its gentle head,
Unhurt amid the storm.

Thus virtue ever shines,
When worldly cares surround;
As life's bright sun declines,
Its lustre still is found:
'Tis bright in pleasure's hour,
And gilds dark sorrow's day;
Like amaranthine flower,
It blooms amid decay!

JONQUIL—EMBLEM OF TORMENT.

That there is a very singular affinity between the varied sensations of the mind and body, is perceptible to the most ordinary intellect. This idea is illustrated in many of these botanical illusions, and particularly in the subject of the present notice. The Jonquil represents torments, either moral or physical; its yellow hue and sickening odor, are strikingly typical of those torments of the mind,

"Which steep the soul in wretchedness
And prey upon the heart——."

and equally so of those corporeal agonies which

"Wring the frame to bear."

Mickle thus makes the application of this subject to an individual whose conscience was seared by crime:

His heart is dead to earthly joy,
His hopes the world cannot restore;
When torments of the mind destroy
Life's flowers, they never blossom more:
His being's essence all is gone,
Whose soul is of the jonquil's hue!
The blighted flowers may linger on
The tree, yet never bloom anew.

TO-MORROW.

BY THE HON. MRS. NORTON.

What e'er the grief that dims my eye,
What e'er the cause of sorrow,
We turn us weeping to the sky
And say, "we'll smile to-morrow."
And when from those we love we part,
From hope, we comfort borrow,
And whisper to our aching heart,
"We'll meet again to-morrow."

But when to-morrow comes, 'tis still
An image of to-day,
Still tears our heavy eyelids fill,
Still mourn we those away.
And when that morrow too is past,
(A yesterday of sorrow;)
Hope, smiling, cheats us to the last
With visions of to-morrow.

Corn,

Should be planted more thickly on fertile land than on poor; as a rich soil will sustain and mature a much greater number of thrifty stalks than a poor one. This fact may easily be perceived in the fall of the year by passing through a cornfield, where in some parts five or six stalks with well ripened ears may be found in a single hill; while in others, if there are more than one or two in a hill, the ears will be found small and green, owing entirely to the difference in the quality of the soil.

Soda for Washing.

We have been requested by a correspondent, to publish the recipe for washing with Sub-carbonate of Soda. To five gallons of water add a pint and a half of soft soap and two ounces soda. Put the clothes (after soaking over night) into the mixture when at boiling heat, rubbing the parts most soiled with soap. Boil them one hour—drain—rub, and rinse them in warm water, after being put into indigo water, they are fit for drying. Half the soap and more than half the labor is saved by washing in this manner.—*Silk Culturist.*

Silk.

The Northampton Silk Company have been manufacturing Sewing silk for the last three months in large quantities. Some of it we saw the other day, is as highly finished and as smooth as the best Italian. They make over sixty pounds a week. They are just beginning the manufacture of silk fabrics and when the new factory building is finished, they will do more in this way than all the other establishments in the country put together.—*Northampton Courier.*